ENGINEERING

Regional Supervisor
Branch of Wildlife Refuges

June 29, 1964

EH-Tewaukon
Water Mgmt. Plan

Regional Engineer

Tewaukon NWR - Water Management Plan - Amendment No. 1

We have reviewed the proposed amendment and have no objection to the proposals therein.

However, as a matter of record we wish to add the following comments:

1) Apparently the amendment should include lowering Cutler marsh to elevation 1147 in the fall as shown on the attached map. This had been referred to in section 2 of the 1964 annual water management plan. Current elevation is 1149.2 in Cutler Marsh.

2) The total release from Clouds Lake and Cutler Marsh if both are lowered to elevations 1174.5 and 1147, respectively, will be about 550 acre-feet. The 265 acre-feet expected to be released from Clouds Lake should fill the pools 5, 6, and 7 as planned.

3) We have no objection to constructing the two foot diameter * controlled outlet at Clouds Lake with invert at elevation 1174.5. However, we should still be able to hold the Clouds Lake pool at elevation 1176 when desired. We will provide a design and cost estimate of this outlet if you so desire. In any event the structure should be built to meet refuge management requirements. Let us know whether these differ in any other respect from the Master Plan.

* Actually Conv. 12" outlet from Clouds L. to pool 9 & 24" to Pool @ Boulder 1174.0 each. CWS

4) We are currently preparing a comprehensive water right filing on the Tewaukon Refuge in accordance with the procedure outlined in section 322 "Water Rights" of the Tewaukon Master Development Plan. We wish to process this filing as soon as possible because of the proposed F.Y.'65 construction of the new Tewaukon outlet structure.

John D. Umberger

2 extra cc attd.

CWStephan:rj 6/29/64

Enor. Copy

Water Management Plan - Amendment No. 1

The proposed management of the following pools on the Tewaukon Refuge is submitted for approval.

Marsh - NE¼, Section 34, T 130 N, R 54 W

The marsh located in NE¼ Section 34, T 130 N, R 54 W, will be planted to millet this summer and it is proposed to flood the standing grain on October 15. This will permit utilization by waterfowl during the fall migration. It is estimated that 30 acre feet of water will be needed to flood the marsh to a minimum depth of 6 inches. The water will be pumped out of the Wild Rice River at the approximate point shown on the attached map. Since the Wild Rice River may go dry by October, some additional water could be released from the two beaver dams upstream and possibly from Mud Slough. Whether water from these sources will permit complete flooding of the marsh is not known. A small plug will be needed in the river so that pumping can be effective but it would be removed where pumping is completed.

Pool #5

Pool #5 is an established pool but at this time is holding very little water. It is proposed to release water from Clouds Lake to fill Pool #5 to elevation 1160 during September. This will permit utilization of the pool during migration and with sufficient carryover will make an ideal brood area in 1965.

Pool #6

Pool #6 will be constructed this summer. A rock spillway will be constructed so that water released from Clouds Lake can be passed on to Pool #5. Water in Pool #6 will be held at 1165 and will be filled in September.

Pool #7

Pool #7 is modified somewhat from that shown in the Master Development Plan. A small dam will be constructed in the intermittent drainage from Clouds Lake after water has been passed to fill Pools 5 and 6. Much of the flooded area will be planted to millet this summer. At the proposed elevation of 1174.5, the average depth of the pool will be about 4 inches. Water will be released from Clouds Lake to fill the pool about October 15. The dam will be removed during the late fall so that the water can be passed to Pools 5 and 6 and allow farming of Pool #7 in 1965.

Clouds Lake

Clouds Lake or Pool #8 is proposed for drawdown to eliminate the fish population by freeze out. The majority of fish in the lake are carp, bullheads and perch with few game fish present. The proposed level of

1174.5, with the right weather conditions should produce the desired effect and permit some aquatic vegetation to return to the lake in 1965.

A two foot culvert, with a control mechanism will be placed at the east end of the lake near the rock spillway. It is proposed that it be set at elevation 1174.5, at least temporarly to allow the proposed drawdown. If the culvert is set at 1176, proposed in the Master Development Plan, little or no water will flow out of the lake and lowering of the lake will have to be done by pumping. With our present equipment, pumping will be almost impossible.

Pool #9

Pool #9 is located in a fairly deep basin north of Clouds Lake and will be seeded to grain this summer. Water from Clouds Lake will be used to flood the area about October 1. Water can be either pumped or siphoned into Pool #9.

A summary of the proposed water managment and a map showing the locations of the above pools is attached.

Water Use Summary - 1964

Pools	Acres	Proposed Water Level after Act.	Type of Water Mgt.	Proposed Date of Action	Source	Acre Feet Needed (Est.)	Water Conveyance
Pool #5	4	1160.00	Fill	Sept. 15	Clouds Lake	40	Gravity Flow
Pool #6	12	1165.00	Fill	Sept. 15	Clouds Lake	10	Gravity Flow
Pool #7	23	1174.5	Flood Standing Grain	Oct. 15	Clouds Lake	50	Gravity Flow Pump if Necessary
Clouds Lake (Pool #8)	150	1174.5	Drawdown	Sept. - Nov.	------	--	--------
Pool #9	10	1167.00	Flood Standing Grain	Oct. 1	Clouds Lake	10	Pump or Siphon
rsh #1	13.5	1149.00	Flood Standing Grain	Oct. 15	Wild Rice River	30	Pump

#1 Amendment to Water Man Plan

1) Apparently he plans to lower Cutler Marsh also to 1147. (It is Now 1149.2)

2) Release in Ac-Ft =

Blows L 265 Ac Ft

Cutler Marsh = 280 Ac Ft

545 Ac Ft Total

Storage Req'd in pools 5 + 6 - 36 + 10 = 46 Ac Ft

Pool 7 @ 4" = approx ~~4~~ 40 Ac Ft

3) Approval of installation of low water control 2' D. @ Invert 1174.5 is Req'd. to woods Give 3'+ Depth. (Stevenson's OK, Req'd)

This elevation does not limit holding pools at proposed level eventually. Structure should be capable of operating pool up to elev. 1178.

Looks OK to Me

Carl S.

Ref. Man Plan 1965 page Pools

Pools	Ac Ft	Elev.
5	16 } 40	1163
6	24	1166.9
7	40	1174
9	25	1167
	105 Total	

checks orig. comp. well.